


INTERNATIONAL WORKSHOP

FIRE & BLAST CONSIDERATIONS IN THE
FUTURE DESIGN OF OFFSHORE FACILITIES



JUNE 12-14, 2002 - HOUSTON, TEXAS

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INTERNATIONAL

Fire & Blast Considerations in the Future Design of Offshore Installations

INTRODUCTION AND BACKGROUND

Over the past decade, the offshore industry has expended much effort understanding the causes and severity of explosions in offshore facilities, and the resistance of these facilities to blast overpressures and to different types of hydrocarbon fires. For some fixed platforms and many floating facilities, such as TLPs, SPARs and FPSOs, the hydrocarbon inventory is such that due care is required in the design of safety systems to reduce the risk of fires and blasts and/or reduce their impact to acceptable levels.

The offshore engineering community relies on recommended practices and standards to characterize and design for hydrocarbon explosions and fires. It becomes clear from an examination of various practices and public domain research and technical papers in this field that a vast amount of diverse research has been carried out, leading, in some instances, to fire and blast design practices, which are significantly different. It also becomes clear that much of the existing research/development efforts are yet to be incorporated into design practice.

Worldwide developments indicate a move towards a more code-based approach, as the field of Fire and Blast Engineering matures. Recently, initiatives have begun to update existing API guidance relating to Fire and Blast to include technological advancements over the last ten years and to encompass deepwater, floating and moored structures.

It is against this background and recent development activity in the deepwater Gulf of Mexico that the MMS and wider industry has felt it timely to support a Workshop as a forum for sharing of knowledge and experience and to explore present state-of-practice and influence future developments in Management Processes, Safe Design Practice and Fire and Blast Engineering.

OBJECTIVES OF THE WORKSHOP

The objectives of the Workshop are as follows:

- To provide a forum for contributions by industry, regulatory agencies and certification organizations for the consideration of fire and blast in the future design of offshore installations.
- To compare and contrast present day technology and state-of-practice in areas of:
 - *Philosophy and management processes*
 - *Safe design practice*
 - *Fire and blast loading and resistance*
- To identify if and where future research and development may assist industry.
- To produce a record of the proceedings and a web site for dissemination of the shared learning to interested parties

WORKSHOP FORMAT AND SCHEDULE

The Workshop will be a 2 1/2 day event, in a format consistent with that successfully used for numerous similar workshops supported by MMS over the past 20 years. The format has been found to be effective in the dissemination of knowledge across the Industry.

Day 1:

The Workshop will start with a number of keynote speeches by representatives from Industry and International Regulatory and Certification Authorities followed by Theme papers to set the scene on current Philosophy and Management Processes, Safe Design Practice and Fire and Blast Engineering.

The afternoon of the first day will be devoted to Working Group discussions in seven groups. Working Group Chairs will guide the discussion topics and organize the presentation of 'White Papers' as basis for discussion.

Day 2:

The second full day will start with the presentation of a Theme Paper followed by a topical keynote speech.

The main Workgroup Sessions will then continue for the rest of the day. Participants may attend more than one Workgroup session, changing during session breaks.

Day 3:

The final half-day will start with the presentation of a topical Theme Paper of general interest. The main event in the morning of the third day will consist of presentations by nominated representatives of the Working Groups, who will report the conclusions and recommendations arising out of the deliberations in each Working Group.

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Offshore Facilities • June 12-14, 2002 • Houston, Texas

TECHNICAL ADVISORY PANEL

The Technical Advisory Panel (TAP) consists of representatives from each of the sponsoring organizations. The TAP decides the organization and content of the Workshop including the choice of venue, selection of speakers and topics for Working Group discussion. Sponsoring organizations represented on the TAP include:

- *Regulatory Authorities*
- *The Minerals Management Service*
- *Oil and Gas Companies*
- *Classification Societies*
- *Engineering Contractors*
- *Other Industry Bodies*
- *Research Organizations and Universities*

WORKING GROUPS

The TAP has agreed a number of Working Groups. The Groups will address the different subject areas within the overall theme of the Workshop.

WG 1: Philosophy and Management Processes

WG1 will consider hazard management systems for fire and blast during the life cycle of a facility including the establishment of performance criteria and the relationship between hazard analysis and risk management.

WG 2: Safe Design Practice

WG2 will consider the implementation of hazard management systems for fire and blast on a particular project or facility, including the selection/design of process layout, safety systems and operational procedures and the definition of credible release scenarios for consideration in design.

WG 3: Blast — Load and Response

WG3 will consider methods for the determination of blast loads on structures and equipment and calculation of their response, including consideration of best practice in design to meet performance criteria.

WG 4: Fire — Load and Response

WG4 will consider methods for the determination of fire loads on structures and equipment and calculation of their response, including consideration of best practice in design to meet performance criteria.

WG 5: Floating, Production and Storage Systems

WG5 will consider fire and blast issues specific to floating production facilities, including TLPs, SPARs, Semi-sub and FPSOs.

WG 6: Exploration and Drilling Operations

WG6 will consider fire and blast issues relating specifically to exploration and drilling operations including design of MODUs and other drilling units as well as design considerations for simultaneous operations.

WG 7: Regulation and Certification

WG7 will explore existing worldwide practice for the regulation and certification of fire and blast design of offshore facilities, comparing different approaches and recent initiatives/opportunities for greater consistency or harmonization.

The Working Groups, under the guidance of the TAP, will be responsible for identifying and addressing the critical interfaces between the various groups.

WHITE PAPERS

The discussion 'White Papers' will be prepared by each of the Working Group committees, under the stewardship of the Chair, and agreed by the TAP in advance of the Workshop. The agreed 'White papers' will be made available to attendees at the Workshop. The Working Group Chairs will arrange for presentation of the material in the White paper at the Working Group sessions, soliciting input from attendees, which shall be captured and recorded.

REPORTING

Proceedings will be prepared for Participants of the Workshop documenting the original White Papers and the discussions and conclusions of each of the Working Groups. The Proceedings will take the form of a bound document and/or CD-ROM and be distributed to Sponsors and other participating organizations.

Proceedings will include:

- *The Theme Papers and extended versions of the Keynote Speeches*
- *The discussion White Papers from the Working Groups*
- *Position Papers from each Working Group prepared at the conclusion of the Working Group Sessions*

SPONSORSHIP

Sponsorships are tax deductible and are available at two levels:

Primary Sponsorship: At a cost of \$10,000 is invited from Oil and Gas Companies, Governmental and Regulatory Organizations, Classification Societies and Industry Bodies.

Supporting Sponsorship: At a cost of \$5,000 is invited from Engineering Contractors and Consulting Companies.

Special arrangements are available for Research Organizations and Universities who supply speakers and assistance in paper preparation and workshop organization.

Benefits of Sponsorship:

- Participation in the Technical Advisory Panel meetings.
- Pre-prints of the Working Group White Papers issued before the Workshop.
- Advertising/exposure on all marketing and program material
- Exposure on the Workshop web site with links to the Sponsor's web-site
- Free entry to the Workshop for Company representatives
- Copies of the Proceedings

COORDINATION AND CONTACTS

MSL Services Corporation is responsible for the coordination and administration of the Workshop. Please contact the nominated Workshop coordinator, Justin Bucknell or alternatively Milan Chakravorty for further information related to the Workshop.

Contact Details:



Consulting Engineers

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www.mslengineering.com

PRELIMINARY PROGRAM

DAY 1 - June 12, 2002

- 7:30 – 9:00 Registration (Coffee & Pastries)
9:00 – 9:10 Welcome Remarks (J. Bucknell, MSL)
9:10 – 9:30 Keynote speech*: Minerals Management Service
9:30 – 9:50 Keynote speech: Industry Representative
9:50 – 10:10 Keynote speech: Certification Body
10:10 – 10:30 **BREAK**
10:30 – 11:00 Theme paper**: Design Philosophy and Management Processes
11:00 – 11:30 Theme paper: Safe Design Practice
11:30 – 12:00 Theme paper: Fire & Blast Design - State of Practice
12:00 – 1:30 **LUNCH** (Presentation: Petrobras P36 Accident Investigation)
R. Rios, Brazilian National Petroleum Agency (ANP)
1:30 – 2:00 Theme paper: International Perspective - UKOOA/HSE
2:00 – 3:00 Introduction to the Working Groups – (J. Bucknell, MSL)
Brief overview from Work Group Chairs:
WG 1: Philosophy and Management Processes (D. Carter, BP)
WG 2: Safe Design Practice (J. Wishart, CSO-Aker)
WG 3: Blast - Loads and Response (D. Angevine, ExxonMobil)
WG 4: Fire - Loads and Response (J. Krueger, BP)
WG 5: Floating, Production and Storage Systems (R. Aggarwall, ABB)
WG 6: Exploration and Drilling Operations (M. Sharples, ABS)
WG 7: Regulation and Certification (K. Dangtron, ABS)

- 3:00 – 3:30 **BREAK**
3:30 – 5:00 Working Groups 1st Session
Evening **RECEPTION (Celebrity speaker)**

DAY 2 - June 13, 2002

- 8:00 – 8:30 Coffee & Pastries
8:30 – 9:00 Keynote speech: United States Coast Guard (USCG)
9:00 – 9:30 Theme paper: Large Scale Testing - Jet Fires
9:30 – 10:00 Theme paper: Large Scale Testing - Explosions
10:00 – 10:30 **BREAK**
10:30 – 12:00 Working Groups 2nd Session
12:00 – 1:00 **LUNCH** (Presentation: Petrobras P36 Accident Investigation)
1:00 – 3:00 Working Groups 3rd Session
3:00 – 3:30 **BREAK**
3:30 – 5:00 Working Groups Final Session
Evening **DINNER (sponsor speaker)**

DAY 3 - June 14, 2002

- 7:30 – 9:00 Coffee & Pastries
9:00 – 9:30 Discussion paper: Deepwater Project Presentation (US Facility)
9:30 – 10:00 Discussion paper: Deepwater Project Presentation (FPSO)
10:00 – 10:30 **BREAK**
10:30 – 12:00 Reports of Working Groups (Group Chairs)
ADJOURN

Notes:

* The Keynote Speeches will be included in the Proceedings. There will be an opportunity for questions and discussion from the floor.

** Theme papers will be published in the proceedings. The presentations will be a summary of the published version.



HOTEL ACCOMMODATIONS

A limited amount of rooms are being held at the Omni Houston Hotel at a discounted rate. To book a room please contact reservations at 713-871-8181 or 1-800-THE-OMNI. To guarantee the discounted rate reservations must be made by May 9th and attendees must identify themselves with the International Workshop: Fire and Blast.

Please make your reservations directly with the hotel.

HOW TO REGISTER

By Mail - Send your completed registration form and payment to:

Attention: Kristina Taylor
MSL Services Corporation
11111 Katy Freeway Suite 620
Houston, Texas 77079

By Fax - Send your completed registration form, quoting a purchase order number or credit card details by Fax attention Kristina Taylor 713-463-6557.

By Telephone - 713-463-6180. Please be ready to quote a purchase order number or supply with credit card details.

Via the Internet - Online registration is available at www.fireandblast2002.com

HOW TO PAY

Payment must be made before attendance at the event and must be made in U.S. Dollars. Acceptable methods of payment are check (payable to MSL Services Corporation), credit card, or Purchase Order Number, invoice will follow, net 15 terms.

Please note that booking forms received without payment will be considered binding and invoiced automatically.

SUBSTITUTIONS

Registration fees are non-refundable however they are fully transferable and substitutions may be made at anytime within same affiliated companies.

ENQUIRES

If you have any questions about this event, please contact the Conference Organizer, Kristina Taylor, by telephone at 713-463-6180, or by Fax 713-463-6557, or by E-mail: ktaylor@mslengineering.com.



REGISTRATION FORM

YES! Please register the following delegate(s) for:

International Workshop

Fire and Blast Considerations in the

Future Design of Offshore Facilities

Name: _____

Job Title: _____

Organization: _____

Address: _____

City: _____

State/Region: _____

Zip Post Code: _____

Country: _____

Telephone: _____

Fax: _____

E-mail: _____

Type of Business: _____

No. of Employees: _____

Approving Manager: _____

Title: _____

REGISTRATION

Registration is \$395.00 per attendee.

Primary sponsors receive 6 free registration, supporting sponsors receive 4 free registration. To qualify, registration details must be confirmed no later than June 1, 2002.

PAYMENT METHOD

Purchase Order Number: _____

Payment of _____ is enclosed or please charge to:

☐ Mastercard ☐ VISA ☐ American Express

☐ Discover ☐ Diners ☐ JCB

Payment by credit card will have a \$14.00 processing fee.

Name of Cardholder* _____

Card Number* _____

Expiration Date* _____

Issue Number* _____

Card Holder Address/Zip* _____

Card Holder Telephone Number* _____

*these items must be filled in for application to be processed.

For Further Information and Online Registration go to:

www.fireandblast2002.com